UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service
Washington, DC 20250-1500

Time: 2 p.m., EST, Thursday, July 28, 2005

TECHNICAL STANDARDS COMMITTEE A (TELECOMMUNICATIONS)

MEETING #776

Summary of Decisions

1. Access Equipment (Item ae) – Allied Telesyn (9100 Access Platform)

Committee A has accepted Allied Telesyn's Multiservice Access Platform. The listing will appear on the List of Acceptable Materials, as follows:

6.1
04-05
ae

ae - Access Equipment

Manufacturer	Product	Copper	Fiber	Wireless
Allied Telesyn	Multiservice Access Platform 7000 & 9000 Series[(15)]	Y	Y	N

Notes:

This acceptance includes the 7101, 7102, 7400, 7700, 9100, 9400 and 9700 units.

The 9100 unit is a repackaged version of the 9400 and reuses the same interface cards used in the RUS-accepted Multiservice Access Platform units (including the 7101, 7102, 7400, 7700, 9400 and 9700 units).

The 9100 is a one rack unit modular chassis offering the following features:

- Carrier Class Ethernet
- Up to 6 Gbps uplink capacity
- Support Triple Play over FTTx, copper and xDSL
- Simultaneous fiber and copper connection
- Any Service any Slot
- Hot pluggable Modules

2. Access Equipment (Item ae) – Hitachi (AMN1200 FTTP)

Committee A has granted RUS product acceptance to Hitachi's AMN1200 Fiber to the Premise equipment (FTTP). The FTTP equipment will be included in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

ae – Access Equipment

Manufacturer	Product	Copper	Fiber	Wireless
Hitachi	AMN1200 FTTP	N	Y	N

The AMN1200 FTTP System allows the offering of voice, data and video services. It provides a full complement of FTTP functions – distributing legacy triple play and IP services from softswitches and content servers to up to 704 subscribers per Optical Line Terminal (OLT). The AMN1200 OLT does not have a built-in switching matrix facilitating the deployment of softswitches and routers as part of their content distribution infrastructure.

The AMN1200 system consists of a centrally located OLT, splitters to branch up to 32 individual fibers from the main fiber, and remote Optical Network Terminals (ONTs) at subscribers' premises. When RF video is part of the services package, a WDM unit is provided to combine the 1550 nm wavelength from a video OLT with the 1490 nm downstream wavelength from the AMN1200 OLT. The RF video signal from the AMN1200 SFU ONT is standard 50 - 850 MHz, and does not require a set top box (STB) unless support of Pay Per View (PPV) and/or Video on Demand (VoD) is required. The Hitachi AMN1200 provides a RF return capability that allows existing STBs to communicate with the video head end via the fiber infrastructure for control of PPV and VoD features.

The AMN1200 is based on Passive Optical Network (PON) technology. PON architecture offers a number features listed below:

- Passive optical spans of up to 20 km require no amplification or expensive optical-electrical-optical regeneration along the 20 km span.
- Optical splitters allow each PON line to provide high-speed access to up to 32 end users.
- Integrated WDM (Wavelength Division Multiplexing) allows bi-directional transmission over a single fiber, minimizing fiber cable plant expense.
- In "Greenfield" deployments where no cable plant has yet been run, a PON infrastructure can consolidate all services onto a single optical fiber.

3. Access Equipment (Item ae) – Pannaway (Service Convergence Network)

Committee A granted RUS product acceptance to Pannaway's Service Convergence Network (SCN™). The equipment will be included in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

ae – Access Equipment

Manufacturer	Product	Copper	Fiber	Wireless
Pannaway	Service Convergence Network (SCN™) [19]	Y	Y	N

[19] Accepted the PBG, RGN, PBM, BAS, BAR, CCM, NMX, and BAM

Pannaway's Service Convergence Network (SCN) allows for a Triple Play delivery of converged broadband services.

The Broadband Access Switch (BASTM) is an ADSL2+ DSLAM, digital loop carrier and internetworking switch that manages the converged traffic of up to 32 PBGs (Personal Branch Gateway). Deployed in the central office or remote terminal, the BAS replaces a DSLAM, DLC, and ATM to IP gateway.

The PBG is an all-in-one box providing a single point of access for any existing telephone device, plus replaces an ADSL2+ Internet modem and premise switch/router.

Pannaway BAR is a Gigabit Ethernet aggregator and internetworking switch that manages the converged traffic of up to 11 BAS (Broadband Access Switch) units supporting up to 352 individual residences. Deployed in the central office or remote terminal, the BAR enables the delivery of toll-quality voice calls, broadcast-quality video, and high-speed Internet access.

The NMX is a media and signaling gateway that is designed to ensure toll-quality voice to and from the PSTN. Deployed in the Central Office, the NMX creates an interface between the IP network and the PSTN, completing the connection between the PBG™ (Personal Branch Gateway) and the public network.

Pannaway Call Control Manager (CCM™) is a SIP registration server, proxy server, feature server, and billing mediation platform that routes all calls, provides advanced CLASS features, and delivers billing information for the entire SCN. The CCM has scalability because it uses the SIP protocol, only one CCM is needed to deliver all the features of a Class 5 switch to a small town or a large metropolitan city.

Pannaway BAM is an Element Management System (EMS). Service providers are able to monitor and manage central office equipment in addition to the entire outside plant network with a graphical user interface.

Residential Gateway NID (RGN): Offering the same flexibility and simplicity as the indoor PBG, the outdoor PBG sits outside the premise and replaces the telephone NID, an ADSL2+ Internet modem and premise switch/router. Featuring six individual Ethernet ports with ADSL2+ performance, its Industrial hardened casing protects against all weather conditions, including lightning.

The PBM provides 4 10/100 base TX LAN ports for multiple devices via its ADSL2+ uplink. Web-based provisioning and diagnostics make the device easy to configure and administer.

4. Handholes (Item hh) – Synertech

Committee A has accepted Synetech's S1212, S1118, S1324, S1730, S2436, S3048 and S3660 handholes. The handholes will appear on page 2.7 of the List of Acceptable Materials, as follows:

Manufacturer	Bass Size	Catalog Number
	Hh – Handholes[(1)(2)]	
	Handholes for Copper Systems	
Synetech	12"x15"x22"	S1118B12AA
	18"x23"x29"	S1118B18AA
	24"x24"x30"	S1118B24AA
	36"x26'x32"	S1118B36AA
	12"x16"x16"	S1212B12FA
	18x"23"X29"	S1212B18FA
	24"x25"x25"	S1212B24FA
	36"x27"x27"	S1212B36FA
	12"x18'x28"	S1324B12OA
	18"x20"x29"	S1324B18OA
	24"x26"x35"	S1324B24OA
	36"x28"x37"	S1324B36OA
	12"x22"x35"	S1730B12AA
	18"x24"x37"	S1703B18AA
	24"x30"x43"	S1703B24AA
	36"x33"x45"	S1703B36AA
	18"x34"x46"	S2436B18AA
	24"x35"x47"	S2436B24AA
	36"x37"x49"	S2436B36AA
	18"x40"x58"	S3048B18AA
	24"x41"x59"	S3048B24AA
	36"x43"x61"	S3048B36AA
	18"x46"x70"	S3660B18AA
	24"x47"x71"	S3660B24AA
	36"x48"x72"	S3660B36AA

5. Pre-cast Concrete Manhole (Item mh) – New Basis (Removal)

Committee A has accepted the proposal to remove for the List of Acceptable Materials all pre-cast concrete listings for NewBasis and maintaining all other RUS listed products in section 2, item designation hh – handhole.

This is in response to the NewBasis letter dated April 27, 2005, concerning discontinuance of its pre-cast concrete plants in Georgia, Florida, Texas, and California to the Old Castle Company. NewBasis continues to operate its polymer concrete, fiberglass and polyethylene underground products company in Riverside, California.

6. Network Elements (Item ne) – Innovative Systems (AP & eLation)

Committee has accepted the Application Peripheral (AP) & eLation Service Management System. The product will be included in the *Network Elements* category in the *Other Accepted Items (Non-Materials)* listing as follows:

ne – Network Elements

Manufacturer	Product	Type Designation
Innovative Systems	AP & eLation [(2)]	Service Manager Software

[(2)] Platform technical acceptance includes AP hardware as needed.

Innovative Systems has developed the Application Peripheral (AP) system that is used by Independent Telecommunications Companies across the United States and in Canada. The AP is a multi-service platform making services such as voice mail, conference calling services, network announcements, and calling name database available to service providers.

Innovative Systems' latest product, eLation, is a next generation OSS system. eLation is a software suite that will operate integrated billing and service order, automated provisioning, capital credits, financial systems, automated mapping & facilities management and etc.

The AP's multifunction hardware platform implements new features as your business plan requires them. Revenue producing services provided by the AP include Calling Name Database, Announcement System, Conference Calling System, Voice Mail, Telemarketer Call Screening, Budget Toll, Account Code Plus, Calling Card/Prepay Services and many other services

An AP System consists of a pair of units that provide the redundancy necessary for telecommunication applications. The AP implements a Service Control Point (SCP) in the SS7 network, and meets North America PSTN industry standards for operations and reliability. A single PC running Application Peripheral Administration Center (APAC) software is used to administer, monitor and maintain the AP System.

7. Fiber Optic Cable (Item oc) – Corning Cable System (ALTOS Gel-Free cable)

Committee A has accepted Corning Cable Systems' ALTOS® Gel-Free cable design. Products using this design will be included in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers,* as follows:

RUS Standard Designations "BFO", "CO", and "UO" (Filled) 7 CFR 1755.900
These manufacturers' cables shown by catalog designations comply with 7 CFR 1755.900.

oc-c Self-Supporting Filled Fiber Optic Cables

RUS Standard Suffixes

Cable Construction

Manufacturer	I	J	K	L	P(2)	Mode s	Mode m
Corning Cable Systems(7)	SST-Ribbon	SOLO-ADSS(20)	SST-Ribbon	-	(X)P-RUS	X	X
	ALTOS™(23)	SOLO-ADSS(20)(23)	ALTOS™__(22)(23)	-	(X)P-RUS	X	X
	ALTOS™ Gel-Free (23)()		ALTOS™Gel-Free__(22)(23)()	-	(X)P-RUS	X	X
	ALTOSRD™(23)	-	ALTOSRD™__(22)(23)	-	(X)P-RUS	X	X
	ALTOSRD™ Gel-Free((23)()	-	ALTOSRD™Gel-Free__(22)(23)()	-	(X)P-RUS	X	X
	SST	-	SST(12)	-	(X)P-RUS	X	X

oc-Fiber Optic Cable

RUS Standard Designations "BFO", "CO", and "UO" (Filled) 7 CFR 1755.900
These manufacturers' cables shown by catalog designations comply with 7 CFR 1755.900.

oc-d Dry Filled Multiple Loose Tube Fiber Core Construction(3)(23)

RUS Standard Suffixes

Cable Construction

Manufacturer	E(1)	F(1)	G	H	P(2)	s	m
Corning Cable Systems(7)	ALTOS™	ALTOS™	ALTOS™__(22)	ALTOS™__(22)	(X)P-RUS	X	X
	ALTOS™ Gel-Free	ALTOS™Gel-Free	ALTOS™ Gel-Free__(22)	ALTOS™ Gel-Free__(22)	(X)P-RUS	X	X
	ALTOSRD™	ALTOSRD™	ALTOSRD™__(22)	ALTOSRD™__(22)	(X)P-RUS	X	X
	ALTOSRD™ Gel-Free	ALTOSRD™ Gel-Free	ALTOSRD™ Gel-Free__(22)	ALTOSRD™ Gel-Free__(22)	(X)P-RUS	X	X

This ALTOS® Gel-Free cable design differs from the RUS accepted ALTOS design in that the water blocking agent (thixotropic gel compound) inside the buffer tube has been replaced with a super absorbent polymer (SAP) yarn. The SAT technology has been used for several years as core blocking agent in standard ALTOS cables.

8. Fiber Optic Slack Organizer (Item oco) – Armorcast (Polymer concrete box A600XXXX)

Committee A has accepted Armorcast's polymer concrete boxes series A600XXXX as a fiber cable slack organizer. The boxes will be included in the Fiber *Cable Slack Organizer* category in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

oco - Fiber Cable Slack Organizer

Manufacturer	**Product Series**
Armorcast	A600XXXX[(3)]

Notes:

[(3)]Accepted with split cover for mounting outside plant housing enclosures.

This is an RUS Listed handhole by Armorcast that allows Passive Optical Network housing enclosures to be mounted on top of one half of its 10K rated split covers. Fiber cable slack is coiled in the handhole beneath and is accessible for splicing during construction and future applications as necessary in compliance with RUS Standards for Splicing Copper and Fiber Optic Cable (PC-2).

9. Central Office Equipment (Item pc) – Tekelec (Software Release 4.1.0)

Committee A has accepted Tekelec's Software Release 4.1.0. This will be noted in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

6.3
04-05
pc

pc - Stored Program Digital Switching Equipment

Manufacturer	**Base**	**Accepted System Release[(5)]**	**Acceptance Classification[(1)]**	**RST(s)**
Santera, A Tekelec Company	Tekelec 9000[(9)(10)]	4.1.0	A	Tekelec 9000[(9)(10)]

(9) Systems used for line access for this switch must be included in the RUS *List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers* in category ae – Access Equipment.

The Tekelec T9000 system handles both voice and data. It delivers full feature Tandem Class 4, Business and Residential Voice Services (Class 5), Internet Call Diversion, packet/cell switching, Voice over Broadband (VoB), Wireless Multimedia Gateway and wireless T3000 MGC Multimedia

Gateway Controller. The T3000 / T8000 has both circuit (Time Division Multiplexing [TDM]) and packet fabrics and it supports Lawful Intercept and Emergency calling.

The T9000 is a highly scalable switch which is comprised of two major building block elements:

- The T8000 Multimedia Gateway (MG) is a high-density Multimedia Gateway supporting over 52,000 TDM ports and over 28,000 packet ports per shelf. The T8000 MG can be co-located with the softswitch or distributed out at different Points of Presence (POPs).

- The T3000 Multimedia Gateway Controller (MGC) softswitch or Multimedia Gateway Controller also contains an integrated C7 Signaling Gateway and the Element Management System (EMS) NetscanTM. A collection of T3000s can be deployed at one site or split between two sites for certain Tandem Applications.

The T8000 MG provides a scalable multi-fabric system implementing a cell/frame matrix and a TDM matrix. The T8000 provides the 'any-to-any' relationship between various types of traffic including TDM, ATM (AAL1 and AAL2), and VoIP through channelized and packet interfaces. The T3000 provides the Signaling Gateway, Call Processing, and the Element Management subsystem. The system is composed of varying numbers of T8000 MGs and T3000 s depending on the application and traffic carrying capacity required. The architecture supports scaling to over 10 million busy hour call attempts (BHCA) and close to 1 million TDM ports. Communications between the T3000 and T8000 is based on standards (MEGACO/H.248).

A minimal switch can be comprised of a single T8000 MG and a single T3000 chassis containing two MGC units for redundancy. A 7-foot frame can house two T8000 MG shelves and one T3000 MGC shelf with a T3000 pair. Each T8000 MG shelf contains a 128K DS-0 non-blocking redundant TDM switch matrix and an optional 10Gbps + 10Gbps redundant Cell/Frame matrix. The switch supports both centralized and distributed configurations. For example all of the T8000 nodes can be located in one location to provide a “standalone” switch or can be geographically distributed. A collection of T3000s can be distributed at one site or split between two sites for certain Tandem applications. A T9000 system is equipped with full redundancy on all components and is capable of being upgraded without impacting live traffic. This applies to both the Multimedia Gateway and softswitch components of the system. The T3000 Multimedia Gateway Controller - Emergency Stand Alone (T3000 MGC-ESA) is the Basic Functionality T3000 MGC utilized with remote T8000 MG units for the Stand Alone Class 5 local switching functionality in the event of loss of communication with the T3000 cluster.

10. Buried Plant Housing (Item se) – ADC (OmniReach)

Committee A has accepted ADC Telecommunications' OmniReach Fiber Distribution Hub (FDH). This product will be included in the *Buried Plant Housings* category in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

se - Buried Plant Housings
(Complies with 7 CFR 1755.910)

Type BDS Serving Area Interface Cabinet(4)

Manufacturer	Designation	
	Terminal Type (5)	Cabinet Series
ADC	SC, LC	OmniReach(19)

Notes:

(19) Fiber Optic housings.

ADC's OmniReach Fiber Distribution Terminals are designed to meet the requirements of FTTX networks servicing neighborhoods and housing developments from 32 to 864 homes. Each cabinet is a secure, above-ground, outdoor fiber optic distribution cabinet that is designed to hold the splice trays, splitters, connector panels and storage panels required for fiber-to-the-premises (FTTP) applications. They are constructed of heavy gauge aluminum and tamper-resistant latches with hasps for padlocks, stainless steel hinges and door props to prevent accidental closing. The OmniReach FTTX Fiber Distribution Terminal Product family includes cabinets of different service capacity sizes. Other than the service capacity, the products are substantially the same and are manufactured using the same materials at the same manufacturing locations.

11. Buried Plant Housing (Item se) - Charles Industries, LTD (CFDP)

Committee A has accepted Charles Fiber Distribution Points (CFDP) and Pedlock BDO Series Fiber Pedestals. These pedestals will be included in the *Buried Plant Housings* category in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

se - Buried Plant Housings
(Complies with 7 CFR 1755.910)

Type BD Pedestals
(Listed manufacturers are accepted to supply housing types as indicated by X's.)

			Pedestal Mounted					Type H Pedestals Pole Mounted			
Manufacture	Series	Notes	BD3	BD4	BD5	BD6[17]	BD7	BD3A	BD4A	BD5A	BD6A[17]
Charles Industries, Ltd.	(Pedlock BD)	(2)(3)(15)	X	X	X	X	X	X	X	X	X
	(CP2 Series)	(2)(3)(15)	X	X	X	X	X	X	X	X	X
	CFPD	(15)(19)	X	X	X	X	X	X	X	X	X
	BDO	(15)(18)(19)	X	X	X	X	X	X	X	X	X

se - Buried Plant Housings

(Complies with 7 CFR 1755.910)

Type BD Pedestals

(Listed manufacturers are accepted to supply housing types as indicated by X's.)

			Pedestal Mounted			Pole Mounted					Type M Pedestals Pole Mounted (Increased Height. Above Ground			
Manufacturer	**Series**	**Notes**	**BD14**	**BD15**	**BD16**	**BD17**[17]	**BD14A**	**BD15A**	**BD16A**	**BD17A**[17]	**BD14AG**	**BD15AG**	**BD16AG**	**BD 17AG**[17]
Charles Industries, Ltd.	(Pedlock BD)	(2)(3)(15)	X	X	X	X	X	X	X	X	X	X	X	X
	(CP2 Series)	(2)(3)(15)	X	X	X	X	X	X	X	X	X	X	X	X
	CFPD	(15)(19)	X	X	X	X	X	X	X		X	X	X	X
	BDO	(15)(18)(19)	X	X	X	X	X	X	X	X	X	X	X	X

Notes:

(2) Grounding connectors for field mounting within the housings for terminating #6 AWG solid copper ground wire are available upon request.

(3) Good housekeeping panels are available upon request, sizes BD3 and above. When ordering, suffix the catalog number with the letter "H".

(15) These pedestals are type "M" pedestals (dome) that meet the functional criteria of type "H" pedestals.

(18) Copper & Fiber Optic cable housing in-one accepted.

(19) Fiber Optic housings

Charles CFDP™ and BDO™ Series Fiber Distribution Pedestals protect branch and drop splices of fiber optic cables in FTTP deployments. Charles Fiber Distribution Points (CFDP) offer two-stage environmental protection of fiber optic loop distribution cable and customer service drops in FTTP deployments. This two-stage protection is accomplished by housing a weather-tight interior enclosure within the confines of a non-metallic buried distribution pedestal.

CFDP can accommodate loop-through and stub-out distribution cable, ribbon and loose buffer tube type cable, branch and drop splices, and fiber slack storage. CFDP models may be ordered with an optional bulkhead for pre-connectorized drops. CFDP are available in 4”, 6”, 8”, 10” and 12” pedestal diameters, accommodating up to 24 cable drops.

12. Buried Plant Housing (Item se) – Corning Cable Systems (VPED)

Committee A has accepted Corning's Versatile Access Pedestal (VPED). This pedestal will be included in the List of Acceptable Products as follows:

se - Buried Plant Housings (Complies with 7 CFR 1755.910)														
Type BD Pedestals (Listed manufacturers are accepted to supply housing types as indicated by X's.)														
			Type M Pedestals											
											Pole Mounted			
			Pedestal Mounted				**Pole Mounted**				(Increased Height. Above Ground			
Manufacturer	**Series**	**Notes**	**BD14**	**BD15**	**BD16**	**BD17**[17]	**BD14A**	**BD15A**	**BD16A**	**BD17A**[17]	**BD14AG**	**BD15AG**	**BD16AG**	**BD 17AG**[17]
Corning Cable Sys.	VPED	(18)	X	X	X	X	X	X	X	X	X	X	X	X

Notes:

(18) Copper & Fiber Optic cable housing in-one accepted.

The Corning Cable Systems Versatile Access Pedestal is a flame, impact and UV-resistant housing designed to provide mounting facilities and security for copper and fiber optic cable splicing and termination in a buried plant environment. The pedestal comes equipped with either brackets or a specially designed backboard for splicing or mounting wire terminals. The cover is a "Bell Jar" design that allows for 360 degree access when removed and prevents water submersion of internal components during flood conditions. The pedestal can be stake-mounted, pole-mounted or self-supported with the optional integral stake feature.

13. Buried Plant Housings (Item se) – Emerson Power Energy System (BDS-300 Pedestal ground bars)

Committee A accepted Emerson's material change. Emerson submitted a letter dated May 9, 2005, concerning a change in material used in Emerson's ground bars which are used in BDS-300 pedestals currently listed with RUS. Emerson has submitted sufficient test data in compliance with RUS Specifications for Outside Plant Housings and Serving Area Interface System (PE-91) and recertified its products in compliance to the RUS Buy American requirement.

14. Transport Equipment (Item te) – BTI Photonic System, Inc. (Netstender

Committee A has accepted the Netstender 2060 and 1030 Optical Transmission Platforms. These platforms will be included in the *Transport Equipment* category in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers*, as follows:

te - Transport Equipment

Manufacturer	Product	Interface Rate
RF Band		
BTI Photonic Systems Inc.	Netstender[(15)]	OC-3/12/48/192

Notes:

[(15)]Accepted 2060 and 1030 Optical Transmission Platforms

The Netstender™ family of products provides a range of plug-in modules that supply the photonic layer functions of amplification, signal conditioning, multiplexing and wavelength conversion in a fully managed platform. Netstender™ Reach Extension Modules increase the reach of optical signals from service platforms such as SONET/SDH ADMs, Ethernet switches, routers and Metro WDM terminals, allowing them broader network coverage. They reduce the effects of power loss and attenuation that result from sending signals over fiber and they can be equipped in any universal Netstender™ 1030 or 2060 slot.

Netstender™ Reach Extension Modules include both Amplification and Dispersion Compensation Modules (DCMs). Pre, post and line amplification provides configuration for boosting optical power levels. For high data rates (10 Gb/s) and link spans greater than 100 km, use of DCMs is often required. Unique to Netstender™, a full suite of DCMs is integrated into the same managed platform. The following Reach Extension Modules are provided:

SINGLE CHANNEL/SUB-BAND AMPLIFIERS: The Netstender™ offers two types of amplifiers for use in single channel networks or low channel networks:

- Single-Channel/Sub-Band Booster Amplifier (SBA)
- Single-Channel/Sub-Band Pre-Amplifier (SPA)

These Amplifiers are for single-channel optical links in the wavelength region from 1528 to 1563 nm and for low channel count optical links from 1 to 16 wavelengths within the ITU-T C band between wavelengths 1546.12 to 1559.79 nm.

DWDM AMPLIFIERS: The Netstender™ offers several types of Erbium-Doped Fiber Amplifier (EDFA) circuit packs for reach extension:

- The Optical Booster Amplifier (OBA) is designed to amplify the output signals at the

transmit end of an optical link after the DWDM signals have been multiplexed together.

• The Optical Line Amplifier (OLA) is designed to increase the power level of a signal at intermediate sites along an optical link.

• The Optical Line Amplifier with Mid-Stage Access (OLAM) is designed to increase the power level of a signal at intermediate sites along an optical link. The actual signal gain is adjustable by the user.

• The Optical Pre-Amplifier (OPA) is designed to provide high gain and moderate output power for operating conditions typically found at the receiver end of an optical link.

A Dispersion Compensating Fiber Module (DCM) circuit pack is offered at different compensation levels to correct for the amount of chromatic dispersion in a specific fiber link.

In single channel optically amplified systems, the Amplified Spontaneous Emission (ASE) Noise Filter improves the optical-signal-to-noise-ratio of the system. It is designed to be deployed at the receiver input.

15. Wireless Network (Item wn-l) – ADC (Digivance Long-Range Coverage Solution (LRCS)

Committee A has accepted the ADC Digivance Long-Range Coverage Solution (LRCS). This equipment will be included in the *Wireless Networks* category in *the RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers,* as follows:

wn – Wireless Networks

wn-l Licensed

Manufacturer	**Product**	**Technology**
ADC	Digivance LRCS	800 MHz & 1900 MHz

The rack-mountable Digivance™ LRCS Host Unit is typically located at a remote enhanced base transceiver station (EBTS) or a facility building housing a suite of EBTSs near the area requiring coverage. On the forward path, the host unit digitizes the designated RF band and digitally transports it over single mode fiber to the remote unit. On the reverse path, the host unit receives the digitized signal and converts it to RF. The host unit also collects alarm information from the remote unit. For system deployments, multiple links can be networked together at the same EBTS site. Host units can be daisy-chained together to allow monitoring and control of multiple links from a single user interface. Local monitoring and control functions can be performed either directly through the host unit or via a PC. Remote alarm monitoring and control of the Digivance LRCS system can also be performed from an off-site location or NOC. Communications to the NOC can be performed using a PC with a standard physical layer protocol. In addition to sending alarm notifications to the Digivance EMS through software, the Digivance LRCS Host Unit also features front panel alarm reporting. LEDs on the front panel of the host unit will change color depending on the

status of the unit. LED displays provide information regarding the following items: power, mode of system (active/standby), indication of which unit is at fault, and RF conditions. Furthermore, alarm contact closures provide major and minor alarms. The host unit has two alarm contacts that either report system operation is seriously affected (major alarm) or system operation is degraded (minor alarm). The host unit operates on DC power.

The Digivance LRCS Remote Unit is an outdoor cabinet that is either pole-mounted, floor mounted, or mounted on the side of a building. On the forward path, the remote unit receives the digitized signals from the host unit and converts the signal back into RF to be distributed via an externally mounted antenna. On the reverse path, the remote unit digitizes the designated RF band and digitally transports it over single mode fiber to the host unit. In addition to sending alarm notifications to the Digivance EMS through software, the Digivance LCRS Remote Unit also features front panel alarm reporting. LEDs on the front panel of the remote unit will change color depending on the status of the unit. LED displays provide information regarding the following items: power, mode of system (active/standby), indicate which unit is at fault, RF conditions, power amplifier fault, and antenna fault. Furthermore, alarm contact closures provide a final level of alarming capability at the remote unit. Major and minor alarms are reported through these contact alarm closures. The remote unit is powered by an AC source.

16. Wireless Network (Item wn-l) - Vyyo (700 MHz System)

Committee A has accepted the Vyyo 700 MHz Broadband Wireless System. This equipment will be included in the *Wireless Networks* category in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers,* as follows:

wn – Wireless Networks

wn-l Licensed

Manufacturer	Product	Technology
Vyyo	700 MHz System (8)	Broadband

Notes:

(8) System Consists - V3000, V700DT, V700BAM, V389D, V284, V280, V300, V313, V290UA, V7027PS, V700Y, V700T

Vyyo offers broadband end-to-end solutions to deliver telephony services (T1/E1) and high-speed data connections to business and residential subscribers. The technology uses a modified version of the cable industry standard DOCSIS® architecture to deliver circuit-switched telephony services, as well as voice and data over IP.

Vyyo's V3000 E1/T1 Broadband Hub is the focal point of our unique broadband access system. It supports data, voice, and circuit-switched (E1/T1) traffic to/from Vyyo's radio modems. The V3000 delivers traffic, depending on its type, to a data, voice, or E1/T1 transport network. Data traffic is typically delivered to the Internet through a router; voice traffic is delivered either to a

call-agent/PSTN gateway, an E1/T1 transport network at the central office, or directly to a Class 5 switch. The V3000 E1/T1 Broadband Hub is carrier class and features hot swap board replacement while maintaining continuous operation. The V3000 is equipped with redundant AC or DC power supplies and in conjunction with Vyyo's radio offerings, can be assembled into a fully-redundant, fault-tolerant, high-power base station. Antenna diversity can be enabled to extend the range in challenging environments.

The V3000 E1/T1 Broadband Hub consists of a 19" "V3000 Chassis" and up to eight communication modules. The Upstream modules support 6 channels per board, while the downstream modules support 4 channels per board. Each channel can have different bandwidths, modulations, and symbol rates. For circuit-switched services providing transparent framed or unframed E1/T1 services, the V3000 can be expanded to support up to 4 E1/T1 modules with 12 ports on each module.

The V284 700 MHz Radio Modem is designed specifically for the 700 MHz UHF consumer and business broadband data market. The modem's design combines Vyyo's DOCSIS-based wireless modem with a high performance 700 MHz radio, all in a single low-profile indoor unit. Used in conjunction with Vyyo's V3000 or V2800 IP Broadband Hubs, the V284 provides high-speed data and VoIP services to residential and business customers in a large geographic radius (up to 30miles*). The service provider has the ability to offer best-effort data services as well as support user-specific Service Level Agreements (SLAs) using the Committed and Peak Information Rates (CIR and PIR). The V284, when combined with a small indoor 7 dBi panel antenna (8" x 8" x 2"), allows for non line of sight (NLOS) installations within a 5 mile radius* of the base station.

700 MHz Non-Line of Sight Solution includes: V3000 - E1/T1 Broadband Hub, V700DT - Digital Broadcast Transmitter, V700BAM - Base Station Tuneable Antenna, V389D - Digital Receiver, V284 - 700 MHz Radio Modem, V280 - Data Modem, V300 - E1/T1 Modem Series, V313 - E1/T1 Telephony Modem, V290UA - Outdoor WiFi AP, V7027PS - Indoor Antenna for Radio Modem, V700Y - Yagi Antenna for Data Modem, and the V700T - Transceiver for Data Modem.

17. Conduit (Item hc) – Commscope (Tone-able, Smooth/Ribbed Wall and Co-extruded)

Committee A has accepted Commscope's Smooth-Wall, Ribbed Wall, Toneable and Co-extruded HDPE Conduits. These conduits will be included on page 2.2 of the List of Acceptable Materials, as shown below:

Manufacturer	Type of Conduit	Catalog number
	hc-Underground Conduit	
CommScope	Toneable	SDR 11, 13.5, SCH 40 (3/4" – 4")
	Smooth/ribbed wall	SDR 9, 11, 13.5, SCH 40, 80 (13mm- 4")
	Co-extruded	SDR9, 11, 13.5, SCH 40, 80(3/4" -4")

18. Fiber Cable Slack Organizer – Tunnel Mill (High Density Polyurethane Cone)

Committee A has accepted Tunnel Mill's high density polyurethane fiber cable slack organizers. It will be included in the *Fiber Cable Slack Organizer* category in the RUS List of Acceptable Materials, as follows:

oco - Fiber Cable Slack Organizer

Manufacturer	**Product Series**
Tunnel Mill	BPS182720 Cone

These are slack organizers allow Passive Optical Network housing enclosures to be mounted on top. Fiber cable slack is coiled in the enclosure beneath and is accessible for splicing during construction and future applications as necessary in compliance with RUS Standards for Splicing Copper and Fiber Optic Cable (PC-2).

19. Cable Marker – Lite Industries (Universal Isolation Terminal)

Committee A has accepted the Universal Isolation Terminal (UIT). This UIT will be included in the *Cable Markers* category in the *RUS List of Materials Acceptable for Use on Telecommunications Systems of RUS Borrowers,* as follows:

tm - Cable Markers

Manufacturer Number	**Catalog Cable Route**
Lite Industries, Inc. **(5)**	UIT-11414 UIT-11417 UIT-11418

Notes: **(5)** The added "D" to the part number will indicate a Quick Disconnect comes with the Isolation Terminal in place of the barrel compression splice also includes rubber cold shrink to go over the Quick Disconnect.

Universal Isolation Terminal (UIT) provides 100% isolation of the external ground terminal on most RUS accepted splice closures. A UIT allows the cable sheath to be extended out of the closure and connected to a locate marker post or a protection product that provides remote access, sheath continuity and sheath ground isolation without utilizing a cable port. Once a UIT is installed, a closure does not have to be reopened to gain access to the cable sheath. UIT are used for new installation or retrofitting existing outside plant. A UIT may also be used to connect ground wires to closures where repetitive and easy removal is required. UIT are available with either a Quick Disconnect or barrel compression splice.

Miscellaneous Items

I. Committee A accepted Optical Solutions' request to include the Teltrat International's Inteleflex system into the FiberPath 500 product line. To reflect the inclusion of the Inteleflex equipment as a "component" of the FiberPath 500 Fiber-to-the-Home Solution, we have revised our List of Acceptable Materials, as indicated below:

ae - Access Equipment

Manufacturer	Product	Copper	Fiber	Wireless
Optical Solutions	FiberPath[12]	Y	Y	N

II. Committee A accepted Motorola's request to change the Quantum Bridge's listing on our List of Acceptable Materials, as shown below.

ae - Access Equipment

Manufacturer	Product	Copper	Fiber	Wireless
Motorola	Multi-Service Unified Access Platform[18]	Y	Y	N

Notes:

18. Includes the following Quantum Bridge Communications' products: QB3000 OAS, QB5000 OAS (includes the Motorola ONT1000 Optical Network Terminal), QB622 IOT, and QB100 IOT; and the following Next Level Communications' products: BDT, USAM, BNU, MDU, SSU, and N3 View-1 only.

The Committee scheduled the next meeting for September 29, 2005, at 9 am, EST.

Sincerely,

/s/ Norberto Esteves

NORBERTO ESTEVES
Chairman, Technical Standards
Committee "A" (Telecommunications)
Advanced Services Division

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